

English summary

Ádám Cziboly: The Theory and Practice of the Application of Placebo. A New Complex Bio-Psycho-Social Modell of the Placebo Effect Based on Two Empirical Studies about the Clinical and Everyday Application of Placebo.

The first part of the dissertation discusses the concept, the history and the application of placebo, followed by the discussion of the main theories. I discuss almost twenty different theories, categorized into four major groups: biological theories (endogeneous opiate peptides, classical and operant conditioning, etc.), the „complete medicine effect” theory (antropological theories, the doctor as a placebo, etc.), cognitive and socialpsychological theories (attribution, cognitive dissonance reduction, Pygmalion effect, etc.) and finally the personality trait theories (suggestibility, sensation seeking, etc.).

The second half of the dissertation presents a clinical research. Patients suffering from food allergy and others diagnosed with food aversion were given placebo pills. They had to take the pills for one month. The pills were presented as a new medicine that had been developed in the United States and had proven to be a really effective drug in the treatment of food allergy. During the experiment we measured the changes in the objective health status and the subjective well-being of the patients. 14 patients participated in the experiment, of which 6 had food aversion. Five of them showed improvement of which two had a relapse (our suggested reason is non-compliance), one was still getting better when the research ended, two of them had completely recovered. The recovery of the last two patients was a “miracle”: none of the ordinal biomedical treatments could had helped these patients before. Subjective well-being of food allergic patients was better than food aversion patients, placebo-taking did not change this in any of the two groups.

The third part is a series of experiments about the everyday placebo effect. Our hypothesis was that the effect of alcohol is partially mediated by a placebo effect if the person expects consuming alcohol. Subjects were 156 university students and were tested in groups of 10-15. Subjects had to drink 4x4cl rum or 4x2 cl rum aroma in 20cl Coke in every ten minutes. Short term memory, standing balance, and self-evaluation of subjective physical, emotional and social state were measured before the experiment and after each four rounds of drinking. Every second subject had alcohol-free rum aroma instead of rum. In the first experiment, all subjects believed that they were consuming alcohol, whereas in the second condition they were told that half of them had got placebo. In addition, other subjects had only to imagine that they are drinking the same amount of rum with Coke (cognitive control). Results showed that placebo and alcohol consumption groups moved the same way in the first experiment, and there was a difference in the self-evaluation of the physical symptoms only in the second one. It seems that the effects of alcohol consumption in smaller portions are mediated by placebo effect. Scores of the cognitive control completely differed from the other groups.

In the fourth, closing part of the dissertation I suggest a complex bio-psycho-social model that discusses the biological, the psychological and the social effects in a common framework. I made a distinction between the placebo effect based on conditioning and the placebo effect based on expectation: while the first one can completely be explained by our knowledge of conditioning, the second one’s mechanism is almost unknown for us (yet). My model tries to explain the expectational placebo effect on a biological basis: I assume the presence of two “gates” (nervous inhibitions) that have been emerged during the evolution. The first one filters the information coming from the vegetative organs to the orbitofrontal region (bottom-to-up), the second one filters the instructions going from the mind to the visceral system (up-to-bottom). I assume that the temporary opening of the second gate might be responsible for the expectational placebo effect, when discrete instructions from the mind can be sent directly to the vegetative nervous system. Cognitive and social stimuli have a role in the opening. Besides, I assume that there is a genetically determined disposition to open the gate, this might be responsible for the placebo response of a part of the population. I suggest that the second gate is located in the anterior cingulum.